

REMARKS

Initially, Applicants would like to express their appreciation to the Examiner for the detailed Official Action provided, for the acknowledgment of Applicants' Information Disclosure Statements by return of the Forms PTO-1449, and for the acknowledgment of Applicants' Claim for Priority and receipt of the certified copy of the priority document in the Official Action.

Upon entry of the above amendments, the abstract will have been amended, the specification will have been amended, and claims 1, 4, 6-8, 12, 14, 17, 20, 22-24 and 28 will have been amended. Claims 1-29 are currently pending. Applicants respectfully request reconsideration of the outstanding objections and rejections, and allowance of all the claims pending in the present application.

On page 1 of the Official Action, the specification was objected to as containing minor informalities. Applicants note the specification has been amended to address the issues pointed out by the Examiner. In particular, appropriate headings have been inserted, and various spellings have been corrected. Accordingly, Applicants respectfully request that the Examiner withdraw the objection to the specification.

On pages 1 and 2 of the Official Action, claims 4, 14, 20 and 28 were objected to as containing minor informalities. Applicants note that these claims have been amended to address the issues pointed out by the Examiner. Accordingly, Applicants respectfully

request that the Examiner withdraw the objection to claims 4, 14, 20 and 28.

On page 3 of the Official Action, claims 6-8, 12 and 22-24 were rejected under 35 U.S.C. § 112, second paragraph. Applicants note that these claims have been amended to address the issues pointed out by the Examiner. Applicants particularly note that claim 12 has been amended to recite that the coil *does not include a former*. Applicants submit that the meaning of such phrase is clear to those skilled in the art. The Examiner's attention is directed to page 13, line 4 through page 14, line 18 of the present specification, which describes one manner in which a coil having no former can be formed. Applicants further note that the second full paragraph on page 13 has been amended to clarify that the strips and heat shrink act as a former during the manufacturer of the coil. However, lines 11-18 of page 14 clearly explain that the strips and heat shrink are later removed, in order to provide a final coil which does not include a former. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

On pages 4 and 5 of the Official Action, claims 1-6, 9, 10, 12-22 and 25-29 were rejected under 35 U.S.C. § 102(b) as being anticipated by HAKAMATA (U.S. Patent No. 5,214,279).

Applicants respectfully traverse the rejection of claims 1-6, 9, 10, 12-22 and 25-29 under 35 U.S.C. § 102(b).

Claim 1, as presently amended, includes, inter alia, "an electrical coil having a longitudinal axis within said coil, at least a portion of both tines of said tuning fork being located within said coil and parallel to said axis . . . ."

Claim 17, as presently amended, includes, inter alia, "locating at least a portion of said tines within an electrical coil parallel to a longitudinal axis of said coil, said longitudinal axis of said coil being within said coil . . . ."

Applicants submit that HAKAMATA lacks any disclosure of *an electrical coil having a longitudinal axis therein*, much less *a pair of tuning fork tines having portions thereof located within such a coil and parallel to the longitudinal axis*.

Applicants note that the embodiment shown in Figure 17 of HAKAMATA, and discussed at column 16, lines 26-68, is the only embodiment which includes a coil which is wound around a tuning fork. However, Applicants note that coil 31S is wound around the tuning fork 30 to form a curved, U-shaped coil, as shown in Figure 17. Accordingly, Applicants submit that coil 31S clearly does not include a *longitudinal axis therein*. Further, it is also clear that the tines of tuning fork 30 are not located within coil 31S *parallel to a longitudinal axis thereof*. As shown, for example, in Figures 1 and 4 of the present application, the tuning fork tines of the present invention are not individually wrapped by a coil, but are instead both located within the coil and parallel to an inner longitudinal axis thereof.

Applicants also submit that dependent claims 2-6, 9, 10, 12-16, 18-22 and 25-29, which are at least patentable due to their respective dependencies from claims 1 and 17, for the reasons noted above, recite additional features of the invention and are also separately patentable over the prior art of record. For example, as shown in Figure 17, it would appear that the coil 31S vibrates with the tine since it is tightly wound there about, rather than the protruding portion vibrating by more than can be accommodated by the coil (claims 4, 20), and the coil 31S is clearly rectangular (due to the cross sectional shape of the tines) rather than elliptical (claims 5, 21), and its major axis is not in the vibration plane (claims 5, 21), but instead transverse thereto. Further, it is not clear that the system shown in Figure 17 includes additional magnetically permeable material for performing the function recited in claims 6 and 22, and elements 30F are not permanent magnets (claims 9, 26). Further still, the tuning fork itself serves as the former for coil 31S (claim 12), and there is no disclosure of a sensor to provide a signal indicative of the position of a tine (claims 13, 27), much less the specific sensors recited in claims 14 and 28.

Applicants respectfully submit that the rejection of claims 1-6, 9, 10, 12-22 and 25-29 under 35 U.S.C. § 102(b) is improper at least for each and certainly for all of the above-noted reasons. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection, and an early indication of the allowance of these claims.

On page 6 of the Official Action, claims 7, 8, 11, 23 and 24 were rejected under 35

U.S.C. § 103(a) as being unpatentable over HAKAMATA (U.S. Patent No. 5,214,279):

Applicants respectfully traverse the rejection of claims 7, 8, 11, 23 and 24 under 35 U.S.C. § 103(a).

Initially, Applicants note that claims 7, 8, 11, 23 and 24 are patentable at least due to their respective dependencies from claims 1 and 17 for the reasons noted above.

Applicants also submit that claims 7, 8, 11, 23 and 24 recite additional features of the invention and are also separately patentable over the prior art of record. For example, Applicants submit that there is no teaching in HAKAMATA, nor would it have been obvious in the system of HAKAMATA, to taper the coil according to the deflection curve of the tines (claim 11), or to provide one tine as more massive to remain substantially undeflected (claims 7, 23), or to provide such a more massive tine as tapered to accommodate the deflection of the other tine (claims 8, 24). Applicants submit that such modifications would not have been obvious to one of ordinary skill in the art at least because the tines shown in Figure 17 of HAKAMATA are not side-by-side in the same coil, such that spacing during vibration is not a concern.

Accordingly, Applicants submit that the rejection of claims 7, 8, 11, 23 and 24 under 35 U.S.C. § 103(a) is improper at least for each and certainly for all of the above reasons. Applicants respectfully request reconsideration and withdrawal of the rejection, and an early indication of the allowance of these claims.

SUMMARY AND CONCLUSION


Entry and consideration of the present amendment, reconsideration of the outstanding Official Action, and allowance of the present application and all of the claims therein are respectfully requested and now believed to be appropriate.

Applicants have made a sincere effort to place the present application in condition for allowance and believe that they have now done so.

Any amendments to the claims that have been made in this amendment, which do not narrow the scope of the claims, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered cosmetic in nature, and to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should there be any questions or comments, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Respectfully submitted,  
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